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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,521	06/26/2003	Michele J. Alberg	ATMI-631	5747
25559	7590	08/11/2004	EXAMINER	
ATMI, INC. 7 COMMERCE DRIVE DANBURY, CT 06810			HU, HENRY S	
			ART UNIT	PAPER NUMBER
			1713	
DATE MAILED: 08/11/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/606,521	Applicant(s) ALBERG, MICHELE J.	
	Examiner Henry S. Hu	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Oath and Declaration of 10-20-2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☒ Claim(s) 1,3,5 and 8 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicants' Oath and Declaration filed on October 20, 2003 was received. **Claims 1-18** are pending now. An Action follows.

Specification

2. The disclosure is objected to because of the following informalities:

On **page 4**, paragraph 0025 at line 2, two recitations such as "370C" and "430C" are improper and it may be confused by the ordinary skill in the art. The examiner suggests using "370 °C" and "430 °C". Appropriate correction is required.

Claim Objections

3. Claims 1, 3, 5 and 8 are objected to because of the following informalities:

On **Claim 1** at line 4, **Claim 3** at line 2, **Claim 5** at line 2 and **Claim 8** at line 3, all typographical errors should be changed to "**polytetrafluoroethylene**". Please refer to Claim 1 at line 2 for the correct wording. Same problem may be existed throughout the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. *The limitation of parent **Claim 1** in the present invention relates to a method comprising: (A) heating a polytetrafluoroethylene material to an elevated temperature; and (B) maintaining said heating for a time sufficient to substantially **reduce a particle count character of the polytetrafluoroethylene material**. Parent **Claim 10** relates to the same method of **Claim 1** but with a specific heating temperature, while parent **Claim 12** relates to the product produced from **Claim 1**. See other limitations of dependent **Claims 2-9, 11 and 13-18**.*

6. Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Bergman et al. (US 5,377,708).

Regarding the limitation of parent **Claim 1**, **Bergman et al.** disclose a method for improved process of semiconductor wafers and the like by using heat to remove or volatize the by-products from the wafer so that a low particle count performance is obtained (abstract, line 16-20;). **Bergman et al.** further disclose it is accomplished by suitably heating the wafers or other unit being processed (column 10, line 62 – column 11, line 22). It is noted that TEFLON or other suitable fluoropolymer is included in the heating system as the inner bowl piece, bottom wall liner, plug and bellows (column 16, line 14-18; column 17, line 21-22).

7. Regarding **Claims 2, 4 and 8-9**, Bergman et al. disclose that heating by radiation does not rule out either local heating on some portion or using a heating-cooling-heating cycle, because it is desirable to further process to eliminate any particle formation before sending the processed wafer onto other processing (column 19, line 42-46). Bergman discloses that it is preferably beamed onto the whole wafer in a relatively uniform manner (column 20, line 6-9).

Regarding **Claims 3 and 5-6**, Bergman et al. disclose that the heating temperature is in the range of 100-300 °C (column 19, line 47-68). It is noted that TEFLON or polytetrafluoroethylene has a melting point at 621 °F or 327 °C by conversion (see Aldrich chemical catalog).

Regarding **Claim 7**, Bergman et al. disclose that the process time is increased at lower heat processing temperature (column 19, line 55-60).

8. Other two parent **Claims 10 and 12** are thereby rejected with the above rejection for Claims 1-9.

Regarding dependent **Claims 16-18**, TEFLON or other suitable fluoropolymer is used in the heating system as the inner bowl piece, bottom wall liner, plug and bellows as discussed in Claim 1, certainly it is in the form of a film on the substrate and is able to absorb moisture or the like in view of the nature of a film (column 16, line 14-18; column 17, line 21-22).

The remaining dependent **Claims 11 and 13-15** are thereby rejected with the same reason applied for the above rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure. The following references relate to a method to substantially reduce a particle count character of polytetrafluoroethylene by heating:

US Patent No. 4,220,511 to Derbyshire discloses the treatment of sintered PTFE with **both radiation and heat** to produce a grindable material (title). The preferred effective and economic range of irradiation, heat and time at temperature is 50-150 Mrads, 150-600 °F for at least one-half hour (abstract, line 1-12). **No particle count is disclosed.** Therefore, the claimed method for lowering particle count is not disclosed.

10. **US Patent No. 5,215,662 to Johnson et al.** discloses the treatment of microporous nylon materials with **heating** to seal together a plurality of surface (title). **No particle count or PTFE material is disclosed.** Therefore, the claimed method for lowering particle count is not disclosed.

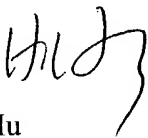
US Patent No. 3,432,511 to Reiling discloses the processing of plastic materials such as PTFE with heating in the range of 785-880 °F to remove the tensile strength of the polymer so

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that it can be comminuted into a fine powder to be dispersed in the carrier without agglomeration (column 1, line 15-25; column 2, line 29-32). **No particle count or the claimed heating temperature is disclosed.** Therefore, the claimed method for lowering particle count is not disclosed.

11. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Henry S. Hu whose telephone number is **(571) 272-1103**. The examiner can be reached on Monday through Friday from 9:00 AM –5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (571) 272-1114. The fax number for the organization where this application or proceeding is assigned is (703) 872-9306 for all regular communications. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Henry S. Hu

August 9, 2004


DAVID W. WU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700